

**Complete if Known**

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Application Number	10/688,416
Filing Date	October 17, 2003
First Named Inventor	David Charles Schwartz
Art Unit	
Examiner Name	
Attorney Docket Number	960296.00129

Sheet	1	of	2
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U. S. PATENT DOCUMENTS

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FOREIGN PATENT DOCUMENTS

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Examiner Initials*	Cite No. ¹	Foreign Patent Document	Publication Date	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T ⁶
		Country Code ³ *Number ⁴ *Kind Code ⁵ (if known)	MM-DD-YYYY			
/SKM V		WO 94/18218	08-18-1994	Seq. Ltd.		
		WO 00/09757	02-24-2000	U.S. Genomics		
		PCT Int'l Search Report				

Examiner Signature	/Stephanie Mummert/ (05/29/2007)	Date Considered	05/29/2007
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Sheet 2 of 2	Attorney Docket Number	960296.00129	

OTHER PRIOR ART—NON PATENT LITERATURE DOCUMENTS			
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/SKM/		Chih-Ming Ho, "Fluidics - The Link Between Micro and Nano Sciences and Technologies", Proceedings of the IEEE 14th Annual International Conference On Microelectro Mechancial Systems. MEMS 2001. Interlaken, Switzerland, Jan 21-25.	
/SKM/		2001, IEEE International Micro Electro Mechanical Systems Conference, New York, NY: IEEE, US, vol. CONF. 14, (01-21-2001), pgs 375-384, XP010534628 ISBN: 0-7803-5998-4, pg 378-379.	
/SKM/		Unger M A Et Al: "Monolithic Microfabricated Valves and Pumps by Multilayer Soft Lithography", Science, American Association For The Advancement Of Science, US, vol. 288, 04/07/2000, pgs. 113-116, XP002192277 ISSN: 0036-8075 Figure 1.	
/SKM/		Stix, Gary; "Thinking Big-A Harvard Medical School dropout aims to usher in the personal-genomics ear," Innovations, Scientific American, June 2002, pgs. 30-31.	
/SKM/		Stikeman, Alexandra, "Nanobiotech Makes The Diagnosis," Technology Review, May 2002, pgs. 61-66.	

Examiner Signature	/Stephanie Mummert/ (05/29/2007)	Date Considered	05/29/2007
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Prior art cited from U.S. Patent No. 6,610,256

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/SKM/		US- 4,473,452	Sep., 1984	Cantor et al.	
		US- 4,695,548	Sep., 1987	Cantor et al.	
		US- 4,737,251	Apr., 1988	Carle et al.	
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		US- 4,870,004	Sep., 1989	Conroy et al.	
		US- 5,059,294	Oct., 1991	Lizardi	
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		US- 5,314,829	May, 1994	Coles	
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/SKM/		FR 2605472	Apr., 1988	Alain Bouillet		
		WO 84/02001	May, 1984	Trustees of Columbia Univers		
		WO 87/01955	Sep., 1987	Washington University		

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Substitute for form 1449B/PTO		Complete If Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)		Application Number	10/688,416
		Filing Date	October 17, 2003
		First Named Inventor	David Charles Schwartz
		Group Art Unit	
		Examiner Name	
Sheet 7 of 7	Attorney Docket Number	960296.00129	

OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
/SKM/		Southern, 1975, "Detection of Specific Sequences among DNA Fragments Separated by Gel Electrophoresis", J. Mol. Biol. 98:503-517.	
		Stallings et al., 1990, "Physical Mapping of Human Chromosomes by Repetitive Sequence Fingerprinting", Proc. Natl. Acad. Sci. USA 87:6218-6222.	
		Stellwagen, 1988, "Effect of Pulsed and Reversing Electric Fields on the Orientation of Linear and Supercoiled DNA Molecules in Agarose Gels", Biochemistry 27:6417-6424.	
		Stellwagen, N.C., 1985, "Orientation of DNA Molecules in Agarose Gels by Pulsed Electric Fields", J. Biomo. Str. and Dynam. 3:299-314.	
		Sturn and Weill, 1989, "Direct Observation of DNA Chain Orientation and Relaxation by Electric Birefringence: Implications for the Mechanism of Separation During Pulsed-Field Gel Electrophoresis", Physical Rev. Letters 62:1484-1487	
		van den Engh et al., 1992, "Estimating Genomic Distance from DNA Sequence Location in Cell Nuclei by a Random Walk Model", Science 257:1410-1412.	
		Williams, 1977, "Use of Polylysine for Adsorption of Nucleic Acids and Enzymes to Electron Microscope Specimen Films", Proc. Natl. Acad. Sci. USA 74:2311-2315.	
		Woolf et al., 1988, "Mapping Genomic Organization by Field Inversion and Two Dimensional Gel Electrophoresis", Nucl. Acids. Res. 16:3863-3875.	
		Yanagida et al., 1983, "Dynamic Behaviors of DNA Molecules in Solution..." Cold Spring Harbor Symp. Quant. Biol. 47:177-187.	
		Zenhausern et al., 1992, "Imaging of DNA by Scanning Force Microscopy", J. Struct. Biol. 108:69-73.	
✓		Zubay, 1988, Biochemistry (Macmillan Publishing Company, New York) pp. 918-919.	

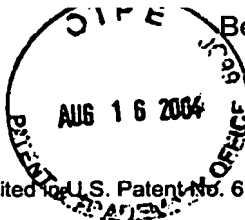
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Prior Art Cited for U.S. Patent No. 6,294,136

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First Named Inventor	David Charles Schwartz
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Examiner Name	
Attorney Docket Number	960296.00129

Sheet 1 of 8

U. S. PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code ² (if known)			
		US- 4,473,452	Sep., 1984	Cantor et al.	204/180
		US- 4,695,548	Sep., 1987	Cantor et al.	435/179
		US- 4,737,251	Apr., 1988	Carle et al.	204/182
		US- 4,767,700	Aug., 1988	Wallace	435/6
		US- 4,870,004	Sep., 1989	Conroy et al.	435/6
		US- 5,059,294	Oct., 1991	Lizardi	204/458
		US- 5,079,169	Jan., 1992	Chu et al.	436/174
		US- 5,314,829	May, 1994	Coles	436/165
		US- 5,380,833	Jan., 1995	Urdea	536/22
		US- 5,720,928	Feb., 1998	Schwartz	422/186
		US- 5,985,549	Nov., 1999	Singer et al.	435/6
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		Country Code ² Number ⁴ Kind Code ⁵ (if known)				
		FR 2605472	Apr., 1988	Alain Bouillet		
		WO 84/02001	May, 1984	Trustees of Columbia University		
		WO 87/01955	Sep., 1987	Washington University		

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Sheet

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of

8

OTHER PRIOR ART—NON PATENT LITERATURE DOCUMENTS

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		Chattoraj et al., 1978, "DNA Coordination with Polyamines", J. Mol. Biol. 121: 327-337.	

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)		Application Number	10/668,416
		Filing Date	October 17, 2003
		First Named Inventor	David Charles Schwartz
		Group Art Unit	
		Examiner Name	
Sheet 3 of 8	Attorney Docket Number	960296.00129	

OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS			
Examiner Initials ¹	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)		Application Number	10/668,416
		Filing Date	October 17, 2003
		First Named Inventor	David Charles Schwartz
		Group Art Unit	
		Examiner Name	
Sheet 1 of 8	Attorney Docket Number	960296.00129	

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		Guo et al., 1992, "Sizing Single DNA Molecules", Nature 359: 783-784.	
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Sheet 5 of 8

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Application Number	10/668,416
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First Named Inventor	David Charles Schwartz
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OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS

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		van den Engh et al., 1992, "Estimating Genomic Distance from DNA Sequence Location in Cell Nuclei by a Random Walk Model", Science 257: 1410-1412.	
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Substitute for form 1449B/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(use as many sheets as necessary)</i>				Complete If Known	
				Application Number	10/668,416
				Filing Date	October 17, 2003
				First Named Inventor	David Charles Schwartz
				Group Art Unit	
				Examiner Name	
Sheet	8	of	8	Attorney Docket Number	960296.00129

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Examiner Signature	/Stephanie Mummert/ (05/29/2007)	Date Considered	05/29/2007
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Prior Art Cited in U.S. PATENT NO. 5,720,928

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Application Number	10/688,416
Filing Date	October 17, 2003
First Named Inventor	David Charles Schwartz
Art Unit	
Examiner Name	
Attorney Docket Number	960296.00129

Sheet	1	of	9
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U. S. PATENT DOCUMENTS

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/SKM/		FR 2605472	Apr., 1988	Alain Bouillet		
↓		WO 84/02001	May, 1984	Trustees of Columbia Univers		
		WO 87/01955	Sep., 1987	Washington University		

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/SKM/		Chattoraj et al., "DNA Condensation with Polyamines", J. Mol. Biol. 121, (1978), pp.327-337.	
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		First Named Inventor	David Charles Schwartz		
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Sheet	3	of	9	Attorney Docket Number	960296.00129

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/SKM/		Zenhausen et al., 1992, "Imaging of DNA by Scanning Force Microscopy", J. Struct. Biol. 108: 69-73.	
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)			Application Number	10/688,416	
			Filing Date	October 17, 2003	
			First Named Inventor	David Charles Schwartz	
			Group Art Unit		
			Examiner Name		
Sheet	5	of	9	Attorney Docket Number	960296.00129

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/SKM/		Luckham and Klein, 1984, "Forces between Mica Surfaces Bearing adsorbed Polyelectrolyte, Poly-L-lysine, in Aqueous Media", Chem. Soc. Faraday Trans. I, 80: 865-878.	
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↓		Rampino and Chrambach, 1991, "Conformational correlatives of DNA band compression and bidirectional migration during field inversion gel electrophoresis, detected by quantitative video epifluorescence microscopy", Biopolymers 31: 1297-1307.	

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Sheet	4	of	9	Attorney Docket Number	960296.00129

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/SKM/		Campbell et al., 1991, "Generation of a nested series of interstitial deletions in yeast artificial chromosomes carrying human DNA", Proc. Natl. Acad. Sci. USA 88:5744.	
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Sheet 6 of 9	Attorney Docket Number	960296.00129	

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/SKM/		Romling et al., 1989, "A physical genome map of Pseudomonas aeruginosa", EMBO J. 8(13): 4081-4089.	
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↓		Manuelidis et al., 1992, "High-resolution mapping of satellite DNA using biotin-labeled DNA probes", Biol. Abstr. 76(4), Ref. No. 27153, p. 2940.	

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V		Roemling et al., "A physical genome map of Pseudomonas aeruginosa", The EMBO Journal, Vol. 8, No. 13 (1989), pp. 4081-4089.	

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Examiner Signature	/Stephanie Mummert/ (05/29/2007)	Date Considered	05/29/2007
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*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

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				Application Number	10/668,416
				Filing Date	October 17, 2003
				First Named Inventor	David Charles Schwartz
				Group Art Unit	
				Examiner Name	
Sheet	9	of	9	Attorney Docket Number	960296.00129

[illegible]

Examiner Signature	/Stephanie Mummert/ (05/29/2007)	Date Considered	05/29/2007
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